THE NEWS LETTER
OF THE
BUREAU OF PUBLIC ROADS

VOL. 2, NO. 6 APRIL, 1927 A. C. ROSE, EDITOR

CONTENTS

STATUS OF FEDERAL AID IN TEXAS OUTLINED BY THE CHIEF OF BUREAU

On account of the interest now centering around the status of Federal aid for highways in Texas, Mr. MacDonald has made public the following statement:

"There has been some misunderstanding as to previous action of the Bureau with reference to Federal-aid participation in Texas. Federal aid, in the strictly legal sense, has not been withdrawn. On account of existing conditions, among which was the lack of State funds for new construction, the Bureau ceased to approve projects. The Texas Highway Department has now requested a resumption of the approval of projects for new construction. Mr. R. S. Sterling, chairman of the Texas Highway Department, conferred with the Bureau on April 7. The aims of the Texas Highway Department and the Bureau are apparently in complete harmony. The Bureau is now engaged in a very careful survey of both the financial and the physical aspects of the future program, and there is little doubt that the approval of projects will be resumed at an early date."

Mr. E. W. James left Washington on April 13 to represent the headquarters office of the Bureau and to work with the State Highway Department and the district office of the Bureau in formulating the future program between the State and the Federal Government.

Mr. MacDonald left Washington for Texas on April 20.

VIEWS ON TRAFFIC CONGESTION AND ITS RELIEF EXPRESSED BY MR. MACDONALD

While in Portland, Oregon, on the bridge hearing Mr. MacDonald gave public expression to his views concerning methods for relieving traffic congestion. Referring to the traffic studies made by the Bureau in congested areas, he said, "It quickly developed that the main causes for congestion, in so far as it was affected by rural road traffic, were: First, lack of continuity of routes, such as State highways and urban arteries not connecting properly; second, lack of by-passes by which through-traffic could escape congested parts of the city; and third, the large number of jur'sdictions sometimes existing in the county in which the city is situated."

Continuing, he stated his views with regard to the relief of congestion epigrammatically as follows:

"Congestion results not from a large amount of traffic moving, but from a large amount of traffic stopping.

"Most regulation retards movement and increases halting, while the only relief possible lies in facilities for uninterrupted flow.

"It is impossible to relieve traffic congestion by simply building wide highways if the traffic is interrupted at other highways, streets or grade intersections. In fact, this procedure probably results in greater congestion. Relief does not lie in width, but lies in doing away with interruptions.

"It may seem impossible, but it is a fact that a highway will discharge traffic at 15 to 20 miles an hour just as freely as at 30 miles an hour. At the greater speed drivers take more room for safety.

"One of the best ways of obtaining traffic relief in congested centers is to divert from these centers traffic that does not belong there."

HEARINGS HELD ON PROPOSED PRIVATELY-OWNED TOLL BRIDGE OVER THE COLUMBIA RIVER BELOW PORTLAND, OREGON

(Not for release)

Public hearings were held in Portland, Oregon, and Longview, Washington, between March 15 and 19, by a tribunal, of which Mr. MacDonald was a member, representing the Secretaries of War, Commerce and Agriculture, to obtain evidence as to the feasibility, necessity, and practicability of a proposed privately-owned toll bridge over the Columbia River in the vicinity of Rainier, Oregon, and Longview, Washington.

The hearings were held in accordance with the provisions of the act (Public - No. 574) passed by the last Congress granting consent to W. D. Comer and Wesley Vandercook to construct, maintain, and operate a toll bridge at this location. The act provided that the **** "construction of such a bridge shall not be commenced nor shall any alterations of such bridge be made either before or after its completion until the plans and specifications for such construction or alterations have been first submitted and approved by the Secretary of War, the Secretary of Commerce, and the Secretary of Agriculture, acting jointly, and they, acting jointly, shall determine whether the types, designs, and specifications thereof are adequate, based upon the proposed use, volume, and weight of traffic passing over such bridge, and whether the height and clearance of such bridge are adequate to protect the commerce on said Columbia River, and whether the location selected is feasible for the erection of such bridge without obstructions in navigation and without being detrimental to the development of interstate and foreign as well as domestic commerce moving to and from the Pacific Ocean on the Columbia River to the inland waters of the States concerned, and whether public convenience will be served by such a bridge as a connecting link between the Federal-aid highway systems of the States of Oregon and Washington."

Representing the several cabinet officers at the hearing were the chairman, Major R. T. Coiner, in charge of the Portland district office of the U. S. Engineers, for the Secretary of War; Colonel E. Lester Jones, director of the U. S. Coast and Geodetic Survey, for the Secretary of Commerce; and Mr. MacDonald for the Secretary of Agriculture.

Evidence for and against the proposed structure was submitted to this tribunal by municipal, county, State, shipping, industrial, motor vehicle, commercial, and other interests involved. The engineer for the bridge proponents was Joseph E. Strauss of the Strauss Bascule Bridge Company of Chicago, who advocated the construction of the bridge and defended the plans which call for a 750-foot main channel span and a 155-foot clearance above mean low water.

A summary of the arguments advanced by the proponents and opponents of the proposed 135-foot-above-mean-high-water toll bridge follows.

Proponents

The bridge would:

Produce street continuity on both sides of the river by connecting a street in Longview, Washington, with one in Rainier, Oregon.

Provide a shorter connection between the Pacific coast-highways in Washington and Oregon and thus stimulate automobile travel.

Serve as a public convenience and assist in the development of the local communities.

Provide a large amount of work for laboring men.

Relieve congestion on the Kelso-Portland section of the Pacific highway in Washington and furnish a shorter route.

Opponents

The bridge would:

Prevent the full and free use of the river to commerce which now moves with an annual volume of 5,000,000 tons into and out of ports situated above the proposed bridge site and which is increasing rapidly in volume.

Obstruct navigation because of the 135-foot-above-mean-high-water clearance which would prevent many vessels from reaching ports above the bridge.

Obstruct navigation because of the inadequate horizontal clearance of the piers in foggy or stormy weather.

Cause increased annual shipping costs due to the increase in the obstruction to river traffic.

Adversely affect the producers of the region by reason of the added shipping costs and prevent them from competing with producers of other regions.

Impair the development of the region by reason of the added shipping costs.

Counteract the reduction of rates and marketing costs made possible by local producers after years of effort.

Nullify the expenditures made by the Port of Portland and the Federal Government in improving a channel 500 feet wide by 30 feet deep, from Portland to the sea, that cost more than $20,000,000 expended over a period of 60 years.

Prevent the Columbia River basin from receiving the full benefits made possible by the topography of the region.

Clash with the national policy of utilizing to the fullest extent the inland waterways of the United States.

Increase transportation costs by decreasing the distance of low-cost ship haul from the ocean to a river port.

Clash with national policy, as expressed in the shipping law of 1920, with the declared object of promoting and developing ports and transportation facilities in connection with water commerce.

Clash with international commercial interests by placing an obstruction between the foreign and Columbia River ports.

Clash with the demands of national preparedness by placing an obstruction to river navigation in time of war.

Permit private interests to reap profits from bridge tolls made possible by highways constructed with public funds.

Serve only as a local convenience to the detriment of the regional and national public necessity.

Link two highways equally distant from Portland and both adequate to accommodate highway traffic.

Establish a precedent for bridges between major ports and the sea which might result in untold damage to other ports so situated.

The tribunal will make a report of its findings to the three designated cabinet officers by whom a decision will be rendered on the basis of the evidence adduced.


YOUR JOB MR. ENGINEER:
TO GIVE THE CONTRACTOR A GRADE HE CAN BUILD ECONOMICALLY
Slip Haul
Wheeler Haul
Wagon Haul
Don't put him up against a banquet choice
Wagon Haul
Wagon Haul
Give him a one-implement grade line
GRADING ECONOMY
OF EVERY DOLLAR SPENT FOR HIGHWAYS TWO BITS GOES FOR GRADING
Grading time is grading money
Stop-watch your operations and turn losses into profits
90
10
80
20
70
30
60
40
50
YOUR JOB MR. CONTRACTOR:
TO FIT THE LOAD TO THE HAUL AND KEEP 'EM COMING TO THE LOADER
AVOID THIS GAP

GOVERNOR AL SMITH OPPOSES TOLL BRIDGES IN NEW YORK STATE VETO MESSAGE

REPRINT FROM THE ENGINEERING NEWS-RECORD
VOL. 98, NO. 14, PAGE 580, APRIL 7, 1927

"N.Y. GOVERNOR THINKS TIME PAST WHEN STATE SHOULD INCORPORATE SUCH COMPANIES

"ON APRIL 1 GOV. SMITH OF NEW YORK VETOED THE LEGISLATIVE ACT AUTHORIZING THE THOUSAND ISLAND INTERNATIONAL BRIDGE CORPORATION TO BUILD A BRIDGE ACROSS THE ST. LAWRENCE RIVER NEAR COLLINS ISLAND, JEFFERSON COUNTY, OVER WELLESLEY ISLAND TO ONTARIO, CAN. IN HIS VETO MESSAGE THE GOVERNOR PRONOUNCED HIMSELF AGAINST FURTHER PRIVATE TOLL BRIDGE AUTHORIZATIONS, AND EXPRESSED THE BELIEF THAT WHEN TOLL BRIDGES ARE DESIRABLE OR NECESSARY THEY SHOULD BE BUILT BY PUBLIC FUNDS. HE SAID IN HIS MESSAGE:

GOVERNOR SMITH'S OBJECTIONS

"I THINK THE TIME IS PAST WHEN THE STATE SHOULD INCORPORATE COMPANIES OF THIS KIND. SUCH BRIDGES SHOULD BE BUILT EITHER FROM PUBLIC FUNDS OR THROUGH AN AGENCY SUCH AS THE PORT AUTHORITY OF NEW YORK, AUTHORIZED TO ISSUE BONDS AT A LOW RATE OF INTEREST AND LIMITED IN TOLLS TO THE AMOUNT NECESSARY TO RETIRE AND PAY INTEREST ON THE BONDS. EXPERIENCE WITH PRIVATE BRIDGES IS THAT THEY RESULT IN LARGE PROFITS TO STOCKHOLDERS AND OTHER PRIVATE PARTIES AND THE MAINTENANCE OF HIGH TOLLS. BEAR MOUNTAIN BRIDGE AT PEEKSKILL IS A GOOD EXAMPLE. THIS BRIDGE WAS INCORPORATED BY PRIVATE INDIVIDUALS WHO WERE GENUINELY INTERESTED IN AFFORDING A NEW MEANS OF ACCESS TO THE BEAR MOUNTAIN SECTION OF THE PALISADES STATE PARK AND THE SURROUNDING TERRITORY. THE MAXIMUM TOLLS WERE FIXED IN THE ACT. INTEREST ON PREFERRED STOCK WAS LIMITED TO 8 PER CENT BUT THE COMPANY WAS PERMITTED TO ISSUE SHARE FOR SHARE OF COMMON STOCK. THE BRIDGE WAS TO REVERT AT THE END OF THIRTY YEARS TO THE STATE AND THERE WERE PROVISIONS FOR RECAPTURE AT A GREATLY LOWERED PRICE IN THE COURSE OF THE THIRTY YEARS. IT IS ALREADY APPARENT THAT THE BRIDGE WILL NOT ONLY PAY THE 8 PER CENT ON THE BASIS OF TOLLS LESS THAN THE MAXIMUM PERMITTED TO BE CHARGED, BUT WILL PAY A LARGE RETURN ON THE STOCK, AND THAT IT WOULD BE A GOOD BUSINESS PROPOSITION, IF THE STATE HAD THE MONEY TO TAKE ADVANTAGE OF THE RECAPTURE CLAUSE. THE FACT IS THAT THE STATE DOES NOT HAVE THE MONEY AVAILABLE BECAUSE OF DEMANDS FOR OTHER PUBLIC IMPROVEMENTS, AND AS A RESULT A PROFIT WHICH OUGHT TO GO TO THE PUBLIC EITHER IN THE FORM OF REDUCED RATES OR IN THE FORM OF RETURNS WHICH COULD BE USED FOR OTHER IMPROVEMENTS NOW GOES INTO THE POCKETS OF PRIVATE OWNERS.

"PRIVATE BRIDGES OF THIS KIND BRING WITH THEM APPROACH AND TRAFFIC PROBLEMS WHICH IN THE END FALL ON THE STATE AND THE MUNICIPALITIES AND WHAT LOOKS AT FIRST LIKE A PURELY PRIVATE BUSINESS PROPOSITION BECOMES A PUBLIC PROBLEM OF TRAFFIC AND PLANNING AFFECTING ALL THE SURROUNDING TERRITORY. OBVIOUSLY, THESE RELATED PROBLEMS WHICH GO WITH SUCH A STRUCTURE CAN ONLY BE PROPERLY SOLVED BY A PUBLIC AUTHORITY.

"I HAVE JUST SIGNED A MEASURE SETTING UP A PUBLIC NON-PROFIT-MAKING BI-STATE AUTHORITY SIMILAR TO THE PORT AUTHORITIES OF NEW YORK AND ALBANY, TO BUILD THE CHAMPLAIN BRIDGE, AND ALSO A MEASURE PROVIDING FOR A STUDY OF A NIAGARA PORT AND FRONTIER AUTHORITY, WHICH, IF IT IS ESTABLISHED, WILL HAVE THE POWER TO PLAN JUST SUCH BRIDGES AS THIS WITHOUT PRIVATE PROFIT AND SOLELY IN THE PUBLIC INTEREST. I THINK THIS PROJECT AND SIMILAR BRIDGES, SUCH AS THE GRAND ISLAND BRIDGES, CAN WAIT UNTIL A PUBLIC AUTHORITY IS ESTABLISHED FOR THE PURPOSE. I SEE NO MORE REASON FOR A FRANCHISE TO A PRIVATE CORPORATION TO BUILD A BRIDGE OVER THE ST. LAWRENCE THAN I DO FOR A FRANCHISE OR LICENSE TO A PRIVATE CORPORATION TO DEVELOP THE STATE'S WATER POWER ON THAT STREAM."

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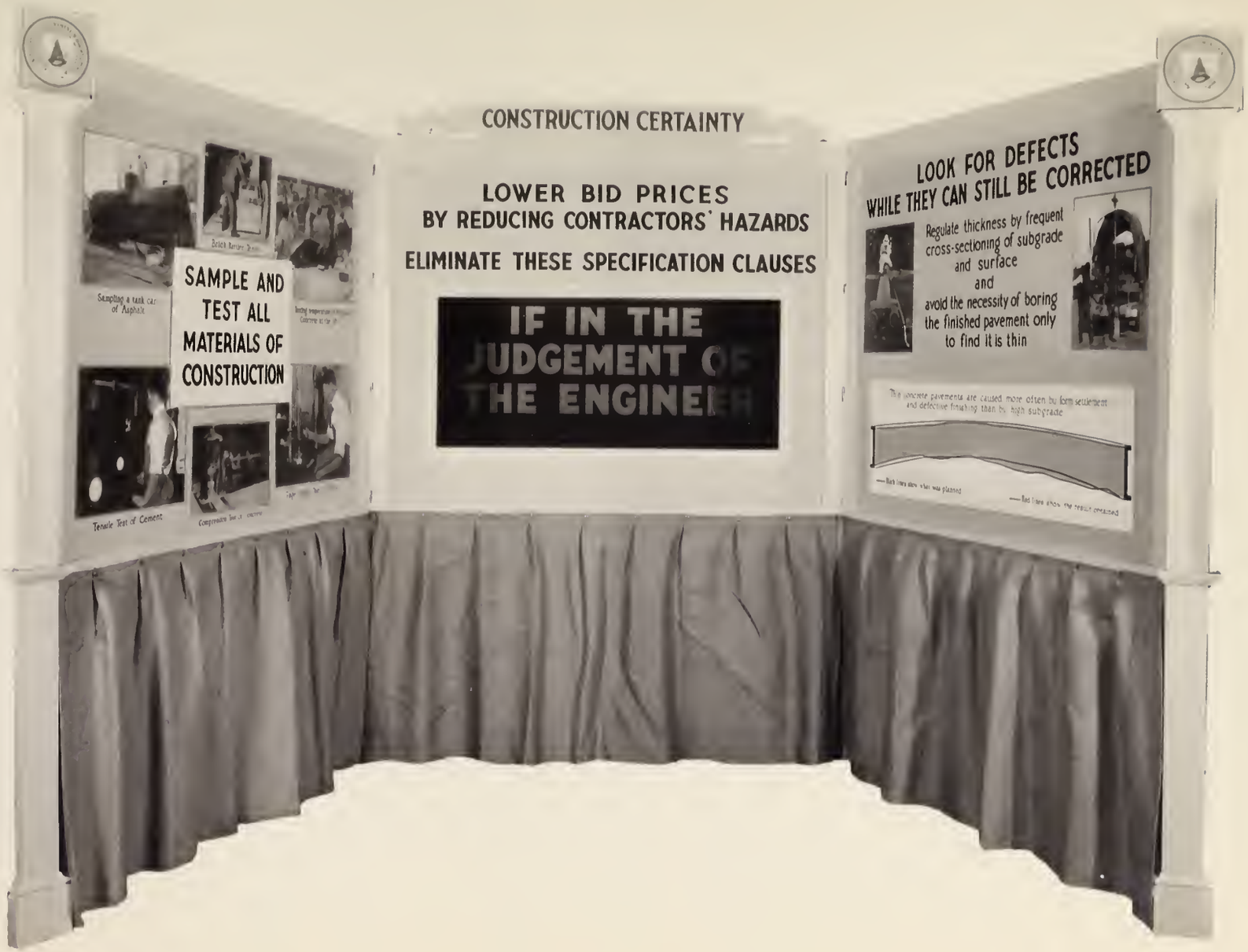
"THE PRIVATE BILLS COMMITTEE OF THE CANADIAN PARLIAMENT, AT A RECENT SITTING REFUSED TO SANCTION THE APPLICATION OF THE PROMOTERS OF THE THOUSAND ISLAND INTERNATIONAL BRIDGE CORP. TO CONSTRUCT A BRIDGE OVER THE ST. LAWRENCE RIVER BETWEEN ROCKPORT, ONTARIO, AND COLLINS LANDING, NEW YORK. THE APPLICATION WAS STRENUOUSLY OPPOSED BY MAJOR GRAHAM BELL, DEPUTY MINISTER OF RAILWAYS AND CANALS, WHO POINTED OUT THAT WITH THE COMPLETION OF THE WELLAND CANAL IT WOULD BE NECESSARY TO HAVE A BRIDGE ACROSS THE ST. LAWRENCE AT PRESCOTT OR BROCKVILLE, SO THAT IN WINTER ACCESS COULD BE HAD TO BOTH CANADIAN AND AMERICAN BOATS; OTHERWISE THE GRAIN WOULD GO TO OGDENSBURG AND BUILD UP AN AMERICAN PORT, AND SO AN EXPENDITURE OF $110,000,000 ON THE WELLAND CANAL WOULD BE LOST. CHARLES B. HIBBARD, NEW YORK BANKER, AND DR. C. E. STEINMAN, ENGINEER, WERE THE CHIEF SPOKESMEN FOR THE PROPOSED PROJECT."

1926 MOTOR VEHICLE REGISTRATION FEE TABLE REVISED

THE TABLE (M.V.-2-1926) ON PAGE 24 OF THE MARCH, 1927, NEWS LETTER, SHOWING THE MOTOR VEHICLE REVENUE RECEIPTS AND THEIR DISPOSITION FOR 1926, HAS BEEN REVISED IN CERTAIN MINOR DETAILS RELATING TO THE DISPOSITION OF THE GROSS RECEIPTS. THE CORRECTED TABLE WILL BE PUBLISHED IN THE MAY ISSUE OF PUBLIC ROADS.


CONSTRUCTION CERTAINTY
LOWER BID PRICES
BY REDUCING CONTRACTORS' HAZARDS
ELIMINATE THESE SPECIFICATION CLAUSES
IF IN THE
JUDGEMENT OF
THE ENGINEER
SAMPLE AND
TEST ALL
MATERIALS OF
CONSTRUCTION
Sampling a tank car of Asphalt
Tensile Test of Cement
LOOK FOR DEFECTS
WHILE THEY CAN STILL BE CORRECTED
Regulate thickness by frequent cross-sectioning of subgrade and surface
and
avoid the necessity of boring the finished pavement only to find it is thin

PRESENT STATUS OF UNITED STATES HIGHWAY ROUTES 1 AND 10-N

CONTRIBUTED BY F. W. MILLS OF THE DIVISION OF DESIGN

(THIS ARTICLE IS THE BEGINNING OF A SERIES OF CONDITION SUMMARIES OF THE UNITED STATES HIGHWAY ROUTES. SUBSEQUENT INFORMATION WILL BE PUBLISHED FROM TIME TO TIME IN THE NEWS LETTER AS IT BECOMES AVAILABLE)

UNITED STATES HIGHWAY ROUTE 1 IS 76 PER CENT IMPROVED WITH GRAVEL OR THE HIGHER TYPES OF SURFACING OR PAVEMENT. LESS THAN 16 PER CENT CONSISTS OF EARTH OR UNIMPROVED ROAD. THIS ROUTE IS THE EXTREME EASTERN HIGHWAY OF THE COUNTRY AND FOLLOWS THE ATLANTIC SEABOARD PRACTICALLY THROUGHOUT ITS ENTIRE LENGTH, THE ONLY EXCEPTIONS WORTHY OF NOTE BEING IN NEW JERSEY AND IN THE CENTRAL ATLANTIC STATES. THE ROUTE EXTENDS FROM THE CANADIAN BOUNDARY AT FORT KENT, MAINE, FOR A DISTANCE OF 2,321 MILES TO MIAMI, FLORIDA. IT PASSES THROUGH BANGOR, PORTLAND, BOSTON, PROVIDENCE, NEW LONDON, NEW HAVEN, NEW YORK, TRENTON, PHILADELPHIA, BALTIMORE, WASHINGTON, RICHMOND, RALEIGH, COLUMBUS, AUGUSTA AND JACKSONVILLE.

A DETAILED STATEMENT OF THE CONDITION OF THE ROAD AS DETERMINED BY THE BUREAU SURVEY FOLLOWS:

ROUTE 1

STATE	CITY OR TOWN	TYPE	MILES	
	CANADIAN BORDER	GRAVEL	65.40	
	TO HOULTON	GRAVEL UNDER CONSTRUCTION	6.33	
		EARTH	49.59	
		CITY PAVEMENT	1.20	122.52
	HOULTON			
	TO CALAIS	EARTH	90.00	90.00
	CALAIS	GRAVEL	42.03	
	TO MACHIAS	BIT. MACADAM	7.9	
		EARTH	8.87	
		CITY PAVEMENT	1.7	60.50
MAINE	MACHIAS	CONCRETE	.76	
	TO ELLSWORTH	GRAVEL	50.01	
		EARTH	13.89	
		CITY PAVEMENT	.2	64.86

ROUTE 1 (CONTD.)

STATE	CITY OR TOWN	TYPE	MILES	
MAINE (CONTD.)	ELLSWORTH	CONCRETE	1.16	
	TO BANGOR	GRAVEL	23.72	
		CITY PAVEMENT	2.0	26.88
	BANGOR	CONCRETE	.33	
	VIA BELFAST	GRAVEL	79.50	
	THOMASTON	BIT.MACADAM	53.75	
	WISCASSET	EARTH	.5	
	TO PORTLAND	CITY PAVEMENT	5.01	
		BIT.CONCRETE	.13	
		BRIDGE	.62	139.84
	PORTLAND	CONCRETE	32.53	
	TO KITTERY	BIT.MACADAM	11.85	
		CITY PAVEMENT	9.1	
		DUAL PAVEMENT	1.20	54.68
NEW HAMPSHIRE	PORTSMOUTH			
	TO NEWBURYPORT	BIT. CONCRETE	17.00	17.00
MASSACHUSETTS	N.H. STATE LINE	CONCRETE	4.62	
	VIA BOSTON	BIT.MACADAM	21.68	
	TO R.I. STATE	REINF.CONCRETE	30.26	
	LINE	CITY PAVEMENT	19.00	
		BIT.CONCRETE	5.20	80.76
RHODE ISLAND	MASS. STATE LINE	REINF.CONCRETE	6.09	
	VIA PROVIDENCE	CITY PAVEMENT	10.15	
	TO WESTERLY	BIT.CONCRETE	26.41	
		ASPH.MACADAM	18.20	60.85
CONNECTICUT	R.I. STATE LINE	CONCRETE	78.39	
	TO PORT CHESTER	BIT.MACADAM	15.13	
	AT N. Y. STATE	CITY PAVEMENT	14.96	
	LINE	BIT.CONCRETE	10.63	
		BRICK	.14	119.25
NEW YORK	CONN. STATE LINE			
	TO N. J. STATE			
	LINE	CITY PAVEMENT	27.00	27.00

ROUTE 1 (CONTD.)

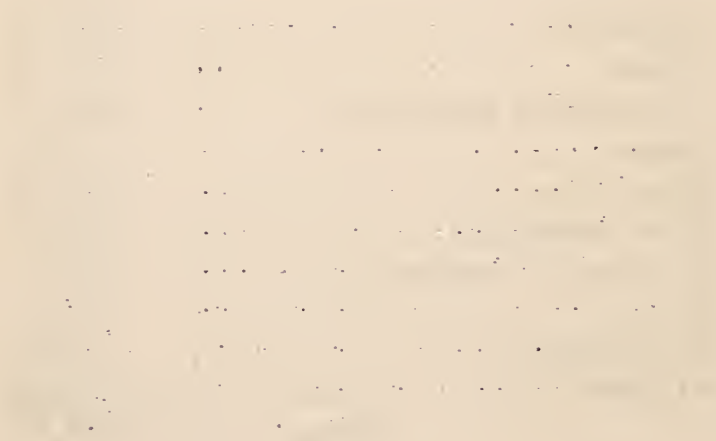
STATE	CITY OR TOWN	TYPE	MILES	
NEW JERSEY	N. Y. STATE LINE	CONCRETE	13.323	
	VIA BRUNSWICK	BIT. MACADAM	1.11	
	TO TRENTON	REINF. CONCRETE AND		
		SHEET ASPHALT	9.221	
		CITY PAVEMENT	26.68	
		BIT. CONCRETE	14.296	70.630
PENNSYLVANIA	N.J. STATE LINE	CITY PAVEMENT	24.00	
	VIA PHILADELPHIA			
	TO MARYLAND	BLACK TOP AND		
	STATE LINE	CONCRETE	59.00	83.00
MARYLAND	PENNSYLVANIA STATE	BLACK TOP		
	LINE VIA BALTO.	AND		
	TO D. C.	CONCRETE	94.00	94.00
VIRGINIA	D. C. LINE	GRAVEL	74.00	
	VIA FREDERICKS-			
	BURG AND RICHMOND			
	TO N.C. STATE LINE	PAVEMENT	141.00	215.00
NORTH CAROLINA	VIRGINIA STATE	CONCRETE	51.91	
	LINE VIA RALEIGH	GRAVEL	15.7	
	TO S.C. STATE LINE	BIT. CONCRETE	29.5	
		CITY PAVEMENT	7.5	
		SAND ASPHALT	19.9	
		TOP SOIL, OIL		
		TREATED	53.3	
		GRADED AND		
		DRAINED	4.5	182.31
SOUTH CAROLINA	N.C. STATE LINE	GRAVEL	17.71	
	VIA CHESTERFIELD	SAND CLAY	131.942	
	CAMDEN	CITY PAVEMENT	6.84	
	COLUMBIA	ASPHALT	15.09	
	AIKEN	UNIMPROVED	14.945	
	TO GEORGIA STATE			
	LINE	BRIDGES	.80	187.33

ROUTE 1 (CONTD.)

STATE	CITY OR TOWN	TYPE	MILES	
GEORGIA	N.C. STATE LINE	CONCRETE	36.197	
	VIA AUGUSTA	BIT. MACADAM	7.023	
	SWAINSBORO	EARTH	55.07	
	LYONS	SAND CLAY	55.133	
	BAXLEY	CITY PAVEMENT	4.850	
	WAYCROSS	BRIDGE	.135	
	TO FLORIDA STATE LINE	SAND CLAY AND GRAVEL, SURFACE TREATED	48.738	
		GRADED AND DRAINED	13.295	220.44
FLORIDA	GEORGIA STATE LINE	CONCRETE	29.835	
	VIA JACKSONVILLE	BIT. MACADAM	136.04	
	ST. AUGUSTINE	EARTH	112.21	
	DAYTONA	CITY PAVEMENT	23.8	
	MELBOURNE	BRICK	18.7	
	FORT PIERCE	SHEET ASPHALT	68.26	
	MIAMI	BRIDGES	7.46	396.31

SUMMARY OF TYPES
ROUTE 1

	MILES	PER CENT
CONCRETE	595.97	25.7
GRAVEL	496.38	21.4
BITUMINOUS MACADAM	356.03	15.4
EARTH	347.93	15.0
SAND CLAY	194.95	8.4
CITY PAVEMENT	183.97	7.9
BITUMINOUS CONCRETE	103.17	4.4
BRICK	18.7	0.8
UNIMPROVED	14.95	0.6
BRIDGES	9.02	0.4
TOTAL	2321.14	100.0



United States Highway 10-North is 66 per cent improved with gravel and the intermediate and high-type pavements. The unimproved and earth road sections of this route total 34 per cent. This is not a trans-continental route but begins at Detroit and runs to Ludington, Michigan, where Lake Michigan is crossed by a ferry to Manitowoc, Wisconsin, and then across Wisconsin, Minnesota, North Dakota, Montana, Idaho and Washington to Seattle on Puget Sound. The total length is 2,398 miles.

A summary of the Bureau survey follows:

ROUTE 10-North

State	City or town	Type	Miles	
Michigan	Detroit	Concrete	84.74	
	via Pontiac	Gravel	114.30	
	Flint	Macadam	1.07	
	Saginaw	City pavement	.5	
	Clare	Bit. concrete	18.57	
	Reed City	Unimproved	12.00	
	to Ludington			231.18
	Ferry from Luding-			
	ton to Manitowoc			
Wisconsin	Manitowoc	Concrete	131.4	
	via Appleton	Gravel	150.5	
	Waupaca	City pavement	10.9	
	Stevens Point			
	Nealville			
	Eau Claire			
	to Hudson	Unimproved	27.7	320.5
Minnesota	Wisconsin State			
	line via St. Paul			
	Minneapolis			
	St. Cloud			
	Little Falls			
	Motley			
	Wadena	Concrete	125.03	
	Detroit	Gravel	75.22	
	to Moorhead and	Earth -	63.97	
	the N. D. State	City pavement	17.71	
	line	Bit. concrete	12.10	294.03

ROUTE 10-NORTH (CONTD.)

STATE	CITY OR TOWN	TYPE	MILES	
NORTH DAKOTA	MINNESOTA STATE LINE AT FARGO VIA VALLEY CITY			
	JAMESTOWN	CONCRETE	4.83	
	BISMARCK	GRAVEL	114.69	
	DICKINSON	EARTH	270.11	
	TO BEACH AND THE MONTANA LINE	CITY PAVEMENT	4.42	
		ASPHALT	2.89	397.00
MONTANA	NORTH DAKOTA STATE LINE VIA GLENDIVE			
	MILES CITY			
	BILLINGS			
	LIVINGSTON			
	BUTTE	CONCRETE	17.00	
	ANACONDA	GRAVEL	375.8	
	DEER LODGE	BIT.CONCRETE	4.32	
	GARRISON	UNIMPROVED	324.1	
	DRUMMOND	GRADED AND		
	MISSOULA	DRAINED	76.80	798.02
IDAHO	MONTANA STATE LINE VIA WALLACE	CONCRETE	18.18	
		GRAVEL	9.39	
	KELLOGG	CR.STONE	37.79	
	COEUR D'ALENE	GRADED AND		
	TO WASHINGTON STATE LINE	DRAINED	11.02	
		UNIMPROVED	7.70	84.08
WASHINGTON	IDAHO STATE LINE VIA SPOKANE			
	DAVENPORT			
	COULEE	CONCRETE	93.00	
	WATERVILLE	GRAVEL	211.85	
	BLEWETT	CITY PAVEMENT	23.75	
	TO SEATTLE	UNIMPROVED	28.7	357.30

SUMMARY OF TYPES
ROUTE 10-NORTH

	MILES	PER CENT
CONCRETE	474.26	19.1
GRAVEL	1090.61	44.0
EARTH	421.90	17.1
CITY PAVEMENT	57.28	2.3
BITUMINOUS CONCRETE	37.88	1.1
UNIMPROVED	400.20	16.4
TOTAL	2482.13	100.0


TRAFFIC SERVICE
TRAFFIC SERVICE IS NOT COMPLETE UNTIL THE DANGER SPOTS HAVE BEEN ERADICATED
A Dangerous Grade Crossing
Accident record maps locate the dangerous places on the highway system
CONSTRUCTION AND MAINTENANCE – YES BUT THE HIGHEST DUTY OF EVERY HIGHWAY DEPARTMENT IS TRAFFIC SERVICE
TRAFFIC IS NOT ADEQUATE-LY SERVED IF IT IS BLOCKED BY SNOW
FOR PERFECT SERVICE - THESE TOO
ILLINOIS
US
20

GENERAL PRACTICE IN THE SELECTION OF BRIDGE TYPES AS INDICATED BY A REVIEW OF FEDERAL-AID PROJECTS

Contributed by the Bridge Section of the Division of Design

A statement of the general practice in the selection of bridge types in this country, as indicated by a record of Federal-aid projects, was recently compiled in response to a request for information made by Sir E. Owen Williams of London, England, and it is presented below in the belief that it may be of interest to the bridge engineers of the Bureau.

"Both concrete and structural steel are used together on nearly all major bridges. The substructure is usually made of concrete either plain or reinforced, the short approach spans and the floor slab on the main spans of reinforced concrete, and the main spans of structural steel. Where an arch structure is suitable, reinforced concrete is generally used. Reinforced concrete trestles are generally used for long low structures as crossings over swamps and wide shallow flood plains where ice does not constitute a menace, although treated timber trestles are also used in such locations.

"The general practice may be summarized as follows:

1. For small openings 7 to 8 square feet and less.
   - A. Reinforced concrete boxes
   - B. Reinforced concrete slabs on plain abutment walls
   - C. Semi-circular openings of plain or reinforced concrete
   - D. Reinforced concrete pipe
   - E. Cast iron pipe
   - F. Vitrified clay pipe encased in plain concrete
   - G. Galvanized metal pipe (where road is not to be hard surfaced)
   - H. Treated timber culverts (very limited use only)

2. Openings greater than 7 to 8 square feet and up to 12-foot span.
   - A. Reinforced concrete boxes
   - B. Reinforced concrete slab on plain or reinforced concrete, or stone masonry abutments
   - C. In warm regions not subject to drift, multiple box culverts of reinforced concrete

3. Spans from 12 feet to 20 feet.
   - A. Reinforced concrete slabs, on plain or reinforced concrete abutments
   - B. Reinforced concrete T-beams, on plain or reinforced concrete abutments
   - C. Limited use of reinforced concrete slabs on steel I-beam stringers with plain or reinforced concrete abutments
   - D. In warm regions not subject to drift, multiple box culverts of reinforced concrete.

4. Spans from 20 feet to 50 feet.
   - A. Reinforced concrete T-beams, on plain or reinforced concrete abutments
   - B. Reinforced concrete slab on rolled steel I-beams, with plain or reinforced concrete abutments

5. Spans from 50 feet to 100 feet.
   - A. Low riveted trusses, with reinforced concrete floor slabs
   - B. Plate girders with reinforced concrete floor slabs

6. Spans over 100 feet.
   Riveted through or deck trusses with reinforced concrete floor slabs

"The use of arches is limited to locations where ample headroom and where rock or other unquestionable foundation material is available. They are generally of reinforced concrete and are built in practically all span lengths up to about 250 feet.

"On structural steel bridges, timber floors with a bituminous wearing surface are sometimes used, but in these cases the structural steel is almost always so designed that a concrete floor may be placed on the structure at some future date without overstressing the members.

"Floors on movable bridges are generally of timber but in a few recent cases reinforced concrete slabs have been used on structures of this type.

"The following approximate proportions of the total cost of bridge construction representing respectively concrete and steel construction on Federal-aid work have been prepared from the cost data of the Bureau for the past year.

"Of the total value of bridge projects costing over $70,000 each, 30 to 40 per cent represented the cost of concrete construction, and 60 to 70 per cent structural steel construction.

"Of the total value of bridge projects costing less than $70,000 each, but more than $10,000 each, 60 to 70 per cent represented concrete construction, and 30 to 40 per cent steel construction.

"Of the total value of bridge projects costing less than $10,000 each, from 80 to 90 per cent represented concrete construction, and 10 to 20 per cent steel construction."

STATES WITH CONTINUOUSLY IMPROVED TRANS-STATE HIGHWAYS

Contributed by the Division of Design

A recent study of the condition logs of the Federal-aid highway system indicates that 28 States will have completed by September, 1927, continuously improved trans-State highways in two directions. These will be: California, Connecticut, Delaware, Florida, Idaho, Illinois, Indiana, Maine, Maryland, Massachusetts, Mississippi, Missouri, Michigan, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, Washington, West Virginia and Wisconsin. Ten other States should be using by next September a single trans-State highway improved throughout their entire length or breadth. These will be: Alabama, Arizona, Arkansas, Colorado, Georgia, Iowa, Kentucky, Louisiana, Minnesota and Utah.

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PUBLIC ROADS

STATUS OF CURRENT FEDERAL AID ROAD WORK

S.P.R.-F.A.-A-1
M-MARCH.1927 -A

FOR THE FISCAL YEAR ENDING JUNE 30. 1927

AS OF MARCH 31, 1927

STATES	BALANCE OF FEDERAL AID FUND AVAILABLE FOR NEW PROJECTS	* UNDER CONSTRUCTION			APPROVED FOR CONSTRUCTION			AMOUNT PAID STATES DURING FISCAL YEAR	COMPLETED AND PAID DURING FISCAL YEAR			AGREEMENTS NOW IN FORCE			P.S.& E. RECOMMENDED BY APPROVAL BY DISTRICT ENGINEER			STATES
		FEDERAL AID	MILES		FEDERAL AID	MILES			FEDERAL AID	MILES		FEDERAL AID	MILES		FEDERAL AID	MILES		
			ORIGINAL	STAGE		ORIGINAL	STAGE			ORIGINAL	STAGE		ORIGINAL	STAGE		ORIGINAL	STAGE	
ALABAMA	$ 3,139,500.23	$ 3.120,971.51	381.3		$ 21,103,32	2.3		$ 1,067,508.74	$ 889,114.85	101.9	4.6	$ 2,621,010.99	302.4		$ 521,063.84	81.2		ALABAMA
ARIZONA	3,509,664.04	974,757.16	81.9					508,096.50	426,049.45	39.7		856,274.89	71.9		18,482.27	10.0		ARIZONA
ARKANSAS	1.785,771.79	1.106,933.82	203.3		664,576.12	50.6		863,223.29	1,659,719.92	206.3		1,534,026.77	236.0		237,483.17	17.8		ARKANSAS
CALIFORNIA	4,280,718.99	3,820,929.86	162.3	0.4				2.481.005.15	3,451,010.85	231.2	17.3	3,518,079.70	145.5	0.4	302,850.16	16.8		CALIFORNIA
COLORADO	2,634,277.21	2,857,490.23	268.7	9.1	367,739.24	26.8		970,703.14	715,537.14	66.8		2,602,563.07	238.9	9.1	622,676.40	56.6		COLORADO
CONNECTICUT	781,153.31	1,444,820.58	69.6		234,086.57	1.1		559,643.59	245,719.74	13.6		1,444,212.28	69.6		234,694.87	1.1		CONNECTICUT
DELAWARE	234,628.82	241,765.90	17.6		129,665,50	14.7		316,654.52	452,067.18	28.0		218,310.90	15.0		153,010.50	17.3		DELAWARE
FLORIDA	1,624,016.98	3,372,923.19	179.8	24.8	359,552.23	24.5		767,812.15	1,803.560.28	112.2		3,201,768.78	177.7	11.8	530,706.64	26.6	13.0	FLORIDA
GEORGIA	1,363,421.99	4,679,562.93	422.9	85.7	382,640.04	2.6	33.8	1,969,322.96	2,421,299.18	280.5	44.0	4,185,009.26	375.7	85.7	777,193.71	49.8	33.8	GEORGIA
IDAHO	847.903.63	1,442,803.05	169.4	16.3	246,879.31	23.0	1.1	1,094,067.97	1,075,121.31	103.7	13.1	1,227,429.10	169.0	6.4	462.253.26	23.4	11.0	IDAHO
ILLINOIS	4,161,359.80	4,123,404.18	310.0		2,110,694.14	151.1		2,287.893.40	1,971,173.14	137.8	2.0	4.082,898.93	306.6		2,151,199.39	154.5		ILLINOIS
INDIANA	793,900.27	7,546,819.61	448.8	11.6	1,501,000,00	106.7		1,830,938.46	2,117,281.93	147.3		7,195,112.70	426.0	11.6	1,852,706.91	129.5		INDIANA
IOWA	301,691.90	5,323,126.12	554.3	209.0	1,878,372.08	123.2	31.8	2,239,791.49	2,101,069.80	298.1	50.6	6.304,923.41	635.4	216.7	896,574.79	42.1	24.1	IOWA
KANSAS	1,736,864.11	5,254,390.81	668.7	4.2	483,802.72	80.3	4.3	2,100.399.71	1,467,396.11	247.6		4,907.001.33	654.8	5.0	831,192.20	94.2	3.5	KANSAS
KENTUCKY	566,189.33	3.868.025.81	365.3	48.7	788,867.06	79.7	8.9	1,241.668.52	915,591.55	100.1	14.6	3,706.096.18	373.3	48.7	950,796.69	71.7	8.9	KENTUCKY
LOUISIANA	1,254,325.25	2,125.856.09	183.1		69,698.88	3.6		832,342.26	691,095,79	77.0		2,184,774.43	183.7		10,780.54	3.0		LOUISIANA
MAINE	1,421,868.90	821,344.43	63.4		43,956.00	5.6		863,450.78	665.945.28	54.0		865.300.43	69.0					MAINE
MARYLAND	657,558.23	465,368.54	42.4					557,790.03	334,258.01	46.0		455.368.54	42.4					MARYLAND
MASSACHUSETTS	2,477.061.62	1,353,705.79	78.6		377,019.05	24.7		284,854.42	332.778.92	10.0		1,572,853.49	93.7		157,871.35	9.6		MASSACHUSETTS
MICHIGAN	2,401,311.30	6,139,469.44	383.3	38.3	943,575.00	51.5	6.5	2,289,419.75	1,245,647.96	74.3		6,015,679.44	386.9	38.3	1.067,365.00	47.9	6.5	MICHIGAN
MINNESOTA	578,576.43	1,301,198.90	255.7	46.1	786,600.00	131.6	69.5	2,547.376.26	3,460,029.11	461.6	114.6	1,480.898.90	303.1	87.6	606.900.00	84.2	28.0	MINNESOTA
MISSISSIPPI	1,109,239.83	3,768,345.62	399.3		463,130.74	30.3	10.3	1,114.069.26	680,646.71	89.5		3,476,676.83	353.7		754.799.53	105.9	10.3	MISSISSIPPI
MISSOURI	1.544,931.19	4,576,500.41	302.3	40.2	776,083,54	97.8	3.7	3,264,003.52	4,558,081.01	310.5	22.9	4,207.059.22	288.9	36.0	1.145,524.73	111.2	7.9	MISSOURI
MONTANA	5,881,988.11	1,333,488.24	122.1	6.7	473,618.96	101.8		799,514.37	953,822.80	96.7	62.6	1,734,007.85	211.7	5.7	73,099.35	12.2		MONTANA
NEBRASKA	2,676.917.13	5.649,467.81	1200.4	598.2	582,033.94	55.2	113.2	2,147.453.13	1,837,751.60	395.2	175.0	5,587,301.65	1229.0	602.2	644,200.10	26.6	109.2	NEBRASKA
NEVADA	847.210.54	1.001,369.39	167.6	26.2	312.536.81	39.4		794,976.94	2.351.683.67	300.5	11.0	1,101,359.39	157.6	26.2	312,536.81	39.4		NEVADA
NEW HAMPSHIRE	467,326.97	303 802.51	18.7					414,921.59	386,537.45	26.4		303,802.51	18.7					NEW HAMPSHIRE
NEW JERSEY	818,987.96	855,223.56	54.9		232,455.00	15.5		732.592.69	2,397.022.27	26.0		960,133.56	61.9		127,545.00	8.5		NEW JERSEY
NEW MEXICO	2,060,869.33	1,981,847.17	237.4		389,782.29	7.9		750,657.11	386.992.83	56.2		1,844.343.65	211.3		527,285.81	34.0		NEW MEXICO
NEW YORK	6,198.791.32	9,031,203.95	562.9		1,485,877.50	83.2	8.6	4,128,147.51	3,052,582.04	196.6		9,775,658.95	604.4		741,422.50	41.7	8.6	NEW YORK
NORTH CAROLINA	1,593,412.57	1,257,610.68	79.7		360.630.34	20.1	12.2	1,897.871.09	3.041,570.47	180.7	37.5	1,401,051.27	91.8		217.189.75	8.0	12.2	NORTH CAROLINA
NORTH DAKOTA	1,135,779.23	2,469,693.22	658.7	61.4	636,475.82	84.1	290.6	2,256,091.30	1,669,801.95	506.1	362.9	2,731,144.84	721.9	114.9	375,024.20	20.9	237.1	NORTH DAKOTA
OHIO	4,552,561.64	4,459,726.00	331.8	10.9	276,998.22	16.2		2,352,870.92	1,832,932.11	145.5	6.7	4,227,590.15	326.0	10.9	509,134.07	22.0		OHIO
OKLAHOMA	1,707,921.89	1,464,462.31	210.1	20.9	720,320.96	114.0	20.7	1,159,583.75	758,973.69	62.3	7.1	1,717,022.78	235.4	29.1	467,760.49	68.7	12.5	OKLAHOMA
OREGON	949,677.99	1,362,664.70	66.4	35.8				1,129,676.98	1,156,191.52	97.1		1,312.639.93	66.4	35.8	49,924.77			OREGON
PENNSYLVANIA	3,366,779.42	5,498,861.46	379.8		1,128,788.64	66.5		2,795,115.46	3,119,354.44	226.8		6,381,413.87	430.7		246,236.23	15.6		PENNSYLVANIA
RHODE ISLAND	754.874.94	205,665.00	13.7		74,175.00	5.0		466,586.24	439.650.00	29.3		279,840.00	18.7					RHODE ISLAND
SOUTH CAROLINA	835,790.81	2,314,982.64	210.0	8.0	227,507.31	31.9	6.0	871,091.97	711,908.31	75.3	15.4	2,230.760.24	183.7	6.2	311,729.71	58.2	7.8	SOUTH CAROLINA
SOUTH DAKOTA	1,084,466.51	1,708,377.00	571.4	12.0	224,609.71	72.2	60.7	1,011,150.56	765,573.81	261.5	154.4	1,710,779.34	595.1	56.3	222,207.37	48.5	16.4	SOUTH DAKOTA
TENNESSEE	1,881,190.27	3,619,005.07	235.6	46.7	35,000.00	0.3		1,638,920.72	1,183,577.64	78.5	15.2	3,225,153.27	199.0	46.7	328,851.80	36.9		TENNESSEE
TEXAS	6,178,394.16	7,440,666.31	613.8	197.2	813,238.16	68.7	50.8	3,723,749.17	3,231,149.65	438.4	27.2	6,933,909.80	582.4	183.7	1,319,994.67	101.1	64.3	TEXAS
UTAH	1,105,649.93	1,701,500.30	161.9		91,454.82	11.6		610,034.37	668,639.27	82.5		1,385,035.68	146.3		407,919.44	27.2		UTAH
VERMONT	731,824.93	618,603.78	30.0					595,126.58	266,003.78	13.1		618,603.78	30.0					VERMONT
VIRGINIA	155.610.60	2.094,951.29	125.8		571,492.05	33.6	4.0	1,628,835.12	1,736,445.95	128.4		1,327.542.34	83.7		1.338,901.00	75.7	4.0	VIRGINIA
WASHINGTON	1,280,156.05	1,750,600.00	68.2					1,057,959.01	463,642.49	42.5		1,750,600.00	68.2					WASHINGTON
WEST VIRGINIA	583.218.82	2,640,353.04	204.2	12.0	348,827.13	39.7		64,155.60	432,685.36	26.5		2,589,372.07	210.1	12.0	399,808.10	33.8		WEST VIRGINIA
WISCONSIN	3.130,263.76	3.141,955.09	297.7	6.8	1,392,816.00	71.7	25.2	2,336,345.99	1,251,529.42	119.9	7.8	3,059,745.38	288.1	6.8	1,475,025.71	81.3	25.2	WISCONSIN
WYOMING	1,290,472.32	1,110,813.63	114.1	33.7	42,256.00	16.7		688,026.42	1,016,214.00	172.5	32.8	1,110,813.63	114.1	33.7	42,256.00	16.7		WYOMING
HAWAII	805,975.36	464.352.64	23.1		98,010.00	6.6		124,275.80	97,440.00	6.5		562,362.64	29.7					HAWAII
TOTALS	$ 91,281.947.71	$ 135,001,640.77	12,762.0	1609.9	$ 23,147,846.20	2023.4	761.9	$ 68,227,766.26	$ 68,889,861.74	7028.7	1199.3	$ 133,725.308.14	12,835.1	1727.5	$ 24,424,178.83	1950.4	644.3	TOTALS

* INCLUDES PROJECTS REPORTED COMPLETED (FINAL VOUCHERS NOT YET PAID) TOTALING FEDERAL AID $34.552,347.62 MILES: ORIGINAL 3129.6; STAGE 398.6

RESISTANCE OF FRANKI CONCRETE PILES TESTED IN FRANCE

(From Le Genie Civil, Dec. 4, 1926, page 543)

Contributed by the Division of Design
Translated and Abstracted by C. S. Jarvis

The need for piles of high bearing power in treacherous soil has developed a special kind of cast-in-place concrete pile that has withstood very severe tests in France.

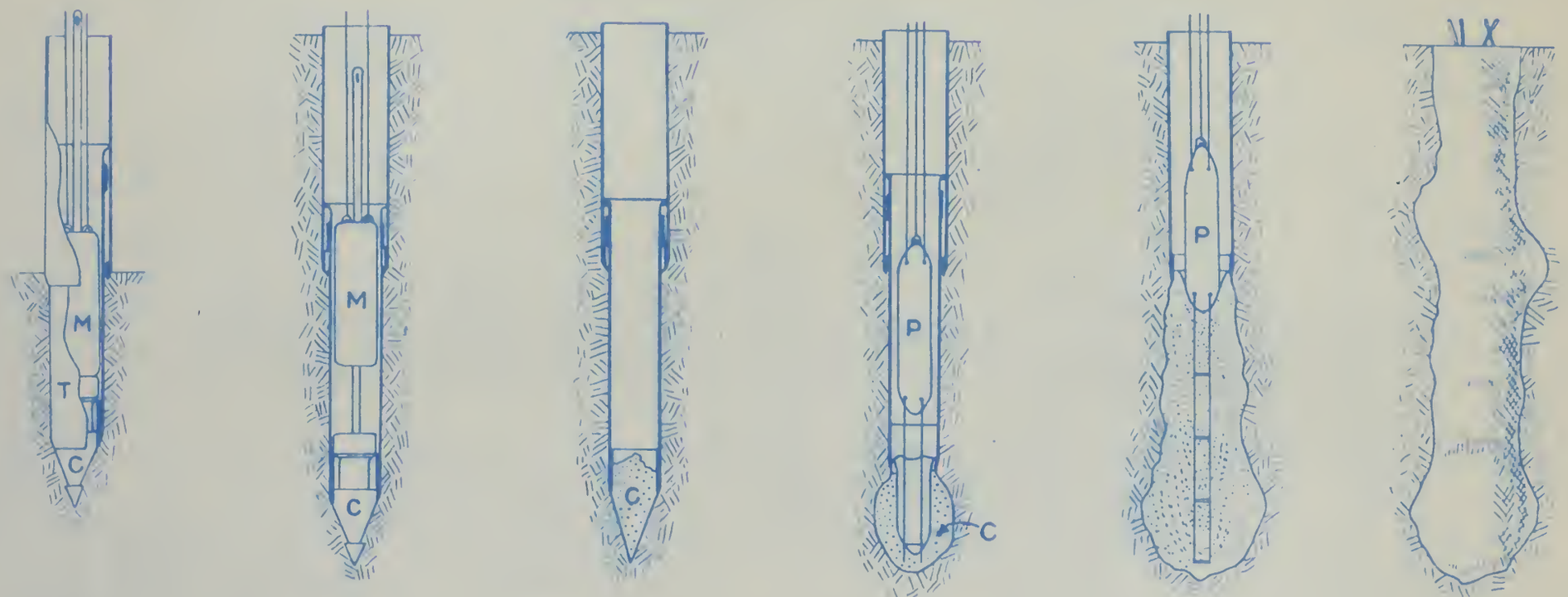
The metal casing consists of telescopic sections (T of the figure) and a conical driving point (C) which are driven into the soil by a cylindrical drop-hammer (M) operating within the lower section. After the required depth has been attained, the driving point and hammer are hoisted to the surface, and the first concrete is deposited. A special cylindrical tamping hammer (P) operating on small guide rods with their lower ends always submerged in the concrete, develops the required lateral pressure by successive blows as the casing is lifted. The guide rods remain in the concrete as reinforcement.

Enlarged sections at various depths result from the unequal compression of the soil layers, due either to their inherent weakness or to the amount of tamping to which the successive layers of concrete are subjected. As a consequence, the resistance of the pile is multiplied several fold as compared with the ordinary smooth type.

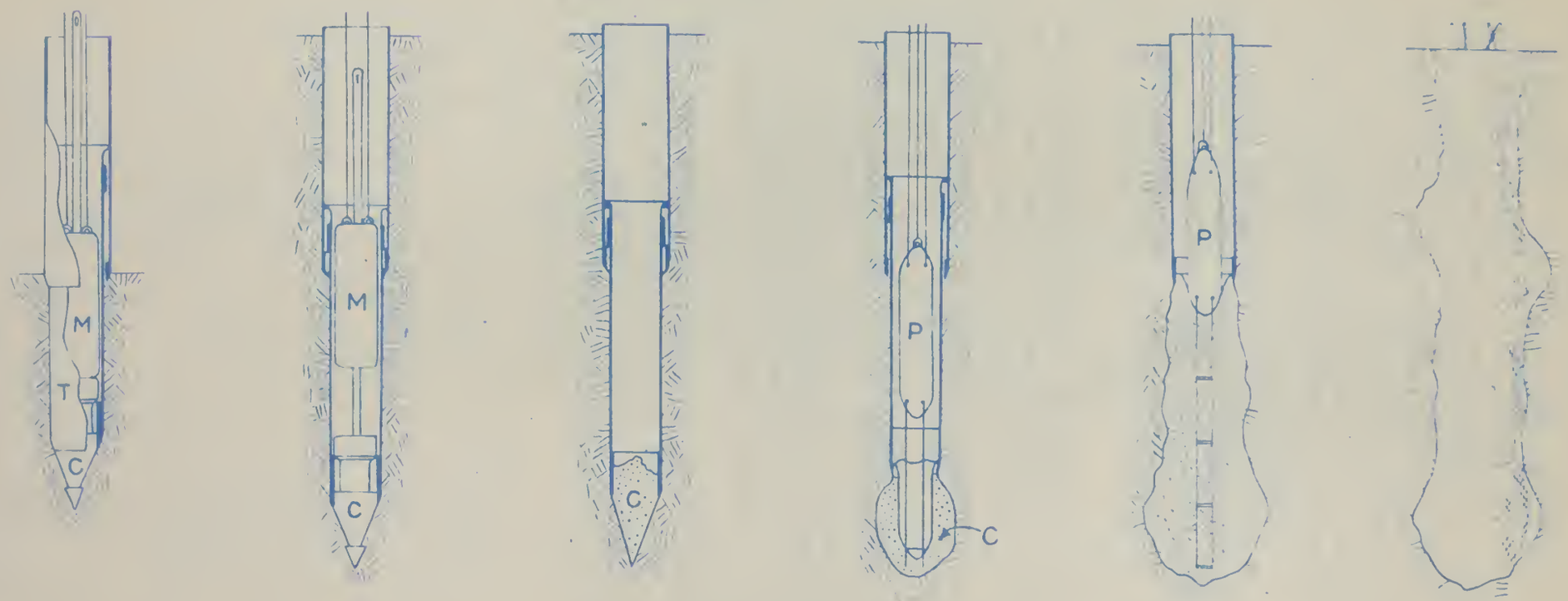
The first experience with this type of piling was at the Banque Dauchi Ginko in Tokyo, Japan, during April, 1926. One pile 11 meters long in good soil was tested up to 230 metric tons.

The first settlement of 1 millimeter occurred at 100 tons; at 160 tons the total settlement was 3 millimeters; at 200 tons it became 5 millimeters; and at 230 tons it was 8 millimeters.

In the construction of the Church of the Sacred Heart at Koekelberg, near Brussels, investigations were conducted to compare various types of bearing piles. The foundation soil was very unstable, comprising the following layers progressively from the surface: Sandy clay, 5 meters; fine sand, 0.5 meter; soft clay, 4 meters; thence plastic clay to an indefinite depth.



SUCCESSIVE STAGES IN THE CONSTRUCTION OF FRANKI CONCRETE PILING



SUCCESSIVE STAGES IN THE CONSTRUCTION OF FRANKI CONCRETE PILING

In spite of the unfavorable conditions the applied load on a Franki pile 11.65 meters in length was gradually increased from 47 to 212 tons without any settlement. At a loading of 250 tons a total displacement of 3 millimeters was observed; at 301 tons, 4 millimeters; and at 335 tons, the maximum loading, 6 millimeters. The pile rose 3 millimeters after the load was removed.

As a consequence of such tests, a total length of 11,000 meters of this type of piling was used, with a designed working load of 60 to 80 tons generally, or 100 tons for the foundations of the central dome.

On very boggy land near Antwerp, Belgium, this same type of piling was tested in a 5-meter length, placed in soil described - beginning at the surface - as 1 meter of earth fill, 1 meter of black peat, 2 meters of water-bearing green sand, 4 meters of fine sand, and 1 meter of alluvium. The settlement increased from 1 millimeter at 62-tons loading to 2 millimeters at 98 tons, 4 millimeters at 133 tons, 5 millimeters at 152 tons, and finally 8 millimeters at 250 tons. A loading of 205 tons sustained for 310 hours failed to produce any additional settlement, but when the entire load was removed the pile elevation increased 3 millimeters, indicating a permanent net settlement of 5 millimeters.

(Note by translator: The ordinary practice as defined by the Standard Highway Bridge Specifications of the A.A.S.H.O. limits the loading on concrete piles to from 25 to 35 tons, and settlement to 1/4 inch (6.1/3 millimeters) in 48 hours under double the designed loading)

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PUBLIC ROADS

R.P.R.-Miso-A-1
A - 1926 - o

SOURCES OF INTERNAL REVENUE

FISCAL YEAR 1926

TAKEN FROM THE ANNUAL REPORT OF THE COMMISSIONER OF INTERNAL REVENUE.

STATES	INCOME (INDIVIDUALS, PARTNERSHIPS AND CORPORATIONS)	ESTATES (TRANSFER OF NET ESTATES OF DECEDENTS) AND GIFTS	DISTILLED SPIRITS AND ALCOHOLIC BEVERAGES	TOBACCO AND TOBACCO MANUFACTURE	STAMP TAXES (DOCUMENTARY AND PLAYING CARDS)	EXCISE TAX (AUTOMOBILES, CAMERAS, CANDY JEWELRY, ETC)	SPECIAL TAXES (BROKERS, BOWLING ALLEYS AND MISCELLANEOUS)	ADMISSION TO THEATERS CLUB DUES, ETC.	MISCELLANEOUS (OLEOMARGARINE, NON-ALCOHOLIC BEVERAGES, NARCOTICS, ETC)	TOTAL ALL SOURCES	STATES
ALABAMA	$ 8,276,196.61	$ 289,996.64	$ 250.00	$ 16,131.24	$ 157,580.43	$ 56,723.23	$ 523,907.72	$ 100,292.23	$ 33,918.31	$ 9,454,996.31	ALABAMA
ARIZONA	1,573 910.74	167,701.11	-	272.92	33.630.67	7,606.31	165,284.93	34,102.01	10,371.77	1,982,780.46	ARIZONA
ARKANSAS	4,391,724.91	78,405.17	-	5,202.66	80,418.72	28,511.69	255,166.41	64,514.38	29 561.31	4,933,495.25	ARKANSAS
CALIFORNIA	101,712,719.02	8,600,307.32	1,979,343.28	10,009,208.18	1,722,326.10	2,226,497.64	5,646,684.93	2,926,706.49	236,311.97	135,060,004.93	CALIFORNIA
COLORADO	11,975,701.65	1,125,215.56	43,317.56	90,818.54	189,841.44	139,749.83	1,029,829.94	190,443.66	46,432.22	14,830,350.29	COLORADO
CONNECTICUT	29,001,346.93	2,139,770.24	12,060.39	237.767.27	230,959.05	2,064,143.43	1,383,885.05	430,061.90	36,831.17	35,536.825.43	CONNECTICUT
DELAWARE	9,539,634.48	191,845.76	125.00	828,403.80	67,650.56	9,088.83	949.920.63	32,286.32	13,094.68	11,632,050.05	DELAWARE
FLORIDA	33,989,492.86	1,170,724.24	325.00	4,155,964.30	2,311,077.68	240,377.00	737,581.63	525,378.03	76,165.01	43,207,085.75	FLORIDA
GEORGIA	12 436,864.89	439,043.74	406.25	105 839.52	184 363.28	78,857.27	731,928.95	206,433.14	47,769 97	14 231,497.01	GEORGIA
IDAHO	1,128,838.03	18,830.80	-	4,509.28	34,672.64	4,592.70	159,743.04	31,105.49	8,689,66	1,390,981.54	IDAHO
ILLINOIS	176,861,248.76	5,604,487.15	5 282,395.42	6.710,504.81	5,267 052.34	3.972,877.96	8,389,819.61	3,776 911.06	854.490.32	216.719,787.43	ILLINOIS
INDIANA	24,922.712.59	1,154,484.63	2,154,483.09	1,138 090.70	266,245.97	7,986,438.56	1,261,897.07	528,095.42	224,911.46	39,637,359.49	INDIANA
IOWA	11,111,594.99	1,045,621.56	50,708.54	305 930.50	201,616.02	169,130.91	742,637.01	241,214.80	83,629.46	13,952 083.79	IOWA
KANSAS	15 562,895.63	202 331.99	250.00	35,985.02	149,166.32	48,233.83	1,052,994.94	107 166 07	276,499.67	17,435,523.37	KANSAS
KENTUCKY	14,638,764.32	383,191.67	2,109,145.21	8,332,947.70	169,861.82	69,272.88	793,444.79	307,816.92	40,764.42	26,845,209.73	KENTUCKY
LOUISIANA	12,582,610.45	226.541.87	1,104,029.54	618,783.61	660,238.60	69,118.84	866,872.76	255,453.11	63,480 11	16,347,128.89	LOUISIANA
MAINE	8.591,328.97	506,420.62	-	48,912.68	66,378.09	15,921.90	456,659.28	77,908.32	19,479.35	9,783,009.21	MAINE
MARYLAND	40,837,080.12	1,481,539.14	932,718.37	811,412.39	408,583.75	257,503.01	1,490,271.78	1,012,119.70	304,720.13	47,535,948.42	MARYLAND
MASSACHUSETTS	100.017,316.88	6,616 832.00	1.190,885.07	879,308.22	1,247,335.09	2,235,080.67	4,717,961.22	1,835,780.71	107,261.55	118,847.761,41	MASSACHUSETTS
MICHIGAN	122.570,115.51	2,368,581.15	432,518.15	4,959,389.43	757,245.53	88,833,736.75	4,105,067.44	1,464,485.70	138,009.77	225,629,148.44	MICHIGAN
MINNESOTA	28,384,381.81	1 860,100.80	72,501.56	197,851.60	437,034.90	288,194.33	2,172,811.10	406,656.08	78,650.49	33,898 182.67	MINNESOTA
MISSISSIPPI	3,526,683.24	76,563.61	200 00	1,601.34	97,424.84	10,082.65	190,823.60	48,393.69	14,686.14	3,966,459.11	MISSISSIPPI
MISSOURI	49,603,446.88	810,123.10	652,512.56	10,767,822.06	644,608.12	1,549,035.45	2,665,265.43	988,574.98	247,365.96	67,928,754.54	MISSOURI
MONTANA	1,967,948.61	6,743,863.32	5,722.88	12,751.46	53,029.64	11,596.96	244,206.12	45 515 98	15,926.44	9,100,561.41	MONTANA
NEBRASKA	6,172,516.77	331,106.40	950.00	75,522.60	133,765.57	118,099.62	418,048.11	146,310.97	61,818.48	7,458,138.42	NEBRASKA
NEVADA	450,979.00	484.24	967.76	1,350.79	31 561.13	3,401.02	41,036.51	53.396.86	3,191.53	586,348.84	NEVADA
NEW HAMPSHIRE	3,012,765.76	294,644.52	1,807.14	498,931.87	24 781.30	12,825.44	217,968.45	51,723.62	10,345,68	4,125 793.78	NEW HAMPSHIRE
NEW JERSEY	72,251,938.53	3,274,464.31	67,595.27	28,672,336.72	1,846,281.58	1,863,515.15	3,068,517.31	1,078,022.83	248,664.31	112,371,336.01	NEW JERSEY
NEW MEXICO	635,119.85	3,329.68	-	481.20	17,371.24	2,566 43	69,043.38	8,728.82	2,964.04	739,604.64	NEW MEXICO
NEW YORK	569,505,487.10	47,330,658.68	4,810,530.85	35,359,424.05	27,255,154.84	10,554 645.12	28,325,822.75	10,036,203.18	551,607.09	733,729 533.66	NEW YORK
NORTH CAROLINA	17,677,936.94	631,851.14	325.00	172,503,186.60	222,375.44	125,993.22	1,094,609.33	127,155.67	20,300.00	192,403,633.34	NORTH CAROLINA
NORTH DAKOTA	778,088.68	54,603.05	-	1,992.71	48,773.89	5,908.32	97,135.82	23,695.97	7,777.40	1,017,975.84	NORTH DAKOTA
OHIO	109,070,914.30	3,127,612.02	2,148,256.21	12,233,152.40	4,272,827.33	17,133,419.19	5,798,010.39	1,640,583.03	330,847.85	155,755,622.72	OHIO
OKLAHOMA	15,789,615.86	749,890.83	375.00	12,835.49	178,531.09	37,644.46	970,890.25	188,399.04	126,593.02	18,053,775.04	OKLAHOMA
OREGON	6,399,176.86	121,675.25	150.00	19,105.74	125,000.51	67,820.36	513.013.83	206,306.90	37,848.24	7,490,097.69	OREGON
PENNSYLVANIA	195,395 832.62	12,935,608.30	3,187,775.27	22,322,302.04	2,213 851.44	2,469,232.41	10,850,830.96	2,781,963.83	260,440.85	252,317,837.72	PENNSYLVANIA
RHODE ISLAND	14.460,565.33	1,338,341.33	5,158.67	84,360.94	72,627.55	45,608.39	683,317.98	190,005.99	15,195.11	16,895,181.29	RHODE ISLAND
SOUTH CAROLINA	4,176,144.47	118,155.83	350.00	126,120.75	56,657.27	15,847.03	336,346.65	41,839.17	26,043.59	4,897,504.76	SOUTH CAROLINA
SOUTH DAKOTA	858,476.91	36,529.92	138.67	29,878.84	42,718.00	5,343.97	98,925.17	31,533.22	12,348.34	1,115,893.04	SOUTH DAKOTA
TENNESSEE	11,398,292 06	913,125.63	1,050.84	3,908,669.11	175,752.33	102,594.72	619,641.72	147,360.43	91,647.06	17,258,133.90	TENNESSEE
TEXAS	36,878,727.77	1,898,413.68	18,157.18	143 310.67	821,806.82	289,527.16	2.093,751.19	483,191.41	252,163.06	42,879,048.94	TEXAS
UTAH	3,462,747.60	67 981.41	150.00	13,802.89	47,181.90	34,669.61	336,390.78	89,538.78	10,696.79	4,063,259.66	UTAH
VERMONT	2,661.312.19	532,236.85	1,602.93	4,430.62	29,415.56	8,950.08	124,031.38	33,627.29	5,874.26	3,401,381.16	VERMONT
VIRGINIA	17,827,023.66	506,042.67	8,119.00	40,815,049.41	169,060.78	71,655.74	1,166,270.56	175,114.59	47,701.25	60,786.037.66	VIRGINIA
WASHINGTON	12,307,536.82	167,573.13	504.18	19,651.73	233,121.51	98,950.97	1,119,144.79	350,963.73	74,072.02	14,371,528.88	WASHINGTON
WEST VIRGINIA	11,553,718.64	370,660.27	441.80	2,315,385.95	100,113.73	61,289.13	1,013,410.93	77.815.32	35,520.29	15,628,356.06	WEST VIRGINIA
WISCONSIN	28,650 351.23	1,045,417 01	171,822.70	535.081.07	382,998.79	6,685,211.29	1,643,315.23	382,851.39	98,307 12	39,595,355.83	WISCONSIN
WYOMING	1,364,591 60	23,396.52	1,801 05	3,318.74	14,007.86	3.700.14	145,003.05	24,979.50	5,048.39	1,585 846.85	WYOMING
HAWAII	3 050,722.10	250,048.96	211.25	5,722.73	57,254.65	7,465.28	353,801.92	45,687.42	16,237.49	6,797,151.80	HAWAII
TOTALS	$1,974,104,141.33	$119,216,374.82	$26,452,028.63	$369,880,814.89	$54,011,333.61	$150,198,165.88	$101,932,733.82	$34,064,515.05	$5,361,254.43	$2,835,211,352.46	TOTALS

NOTE: (*) DOES NOT INCLUDE $788.529.73 COLLECTED FROM THE PHILIPPINE ISLANDS.

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PUBLIC ROADS

TABLE SHOWING AMOUNTS COLLECTED FROM CORPORATIONS AS INCOME TAX BY KINDS OF BUSINESS
CALENDAR YEAR 1924

B.P.R - MISC. A-1
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DATA TAKEN
FROM "STATISTICS OF INCOME" CALENDAR YEAR 1924, PUBLISHED BY THE COMMISSIONER OF INTERNAL REVENUE.

STATE	AGRICULTURE AND RELATED INDUSTRIES	MINING AND QUARRYING	MANUFACTURING	CONSTRUCTION	TRANSPORTATION AND OTHER UTILITIES	TRADE	PUBLIC SERVICE, PROFESSIONAL, AMUSEMENTS, HOTELS, ETC.	FINANCE BANKING, INSURANCE, AND RELATED BUSINESS	COMBINATIONS PREDOMINANT INDUSTRY NOT ASCERTAINABLE	TOTALS	STATE
ALABAMA	$ 5,018	$ 276,280	$ 1,731,245	$ 42,150	$ 301,974	$ 749,965	$ 62,589	$ 542,930	$ 192,948	$ 3,905,099	ALABAMA
ALASKA	1,712	2,316	19,722	-	9,237	16,690	18	1,716	1,121	52,532	ALASKA
ARIZONA	19,106	224,331	171,936	22,113	102,882	158,526	27,197	42,653	7,328	776,072	ARIZONA
ARKANSAS	25,773	44,831	828,072	11,034	151,224	534,072	41,761	222,717	4,965	1,864,449	ARKANSAS
CALIFORNIA	717,731	2,944,188	15,096,273	1,205,489	4,712,803	7,362,604	1,895,783	9,815,736	410,835	44,161,442	CALIFORNIA
COLORADO	16,872	282,687	3,699,978	23,277	958,156	798,994	114,880	1,128,765	488	7,024,097	COLORADO
CONNECTICUT	100,249	65,153	6,869,464	138,420	1,514,391	1,116 429	169,509	1,868,136	6,376	11,848,127	CONNECTICUT
DELAWARE	1,723	240,501	2,133,535	35 565	294,830	279,691	55,339	1,617,962	44,144	4,703,290	DELAWARE
DIST OF COL.	5,827	73,413	378,515	144,483	3,239,098	793,272	234,250	875,989	554	5,745,401	DIST. OF COL.
FLORIDA	52,753	22,513	1,278,344	189,190	1,173,045	1,640,839	176,152	2,466,808	6,745	7,006,389	FLORIDA
GEORGIA	10,097	18,623	3,325,472	65,280	446,698	809,346	118,390	673,207	69,092	5,536,205	GEORGIA
HAWAII	886,447	-	1,598,892	71,386	238,568	419,167	3 565	238,179	169,215	3,625,419	HAWAII
IDAHO	7,539	278,053	128,246	8,695	16,392	200,060	11,695	28,213	1,508	680,401	IDAHO
ILLINOIS	82,670	1,019,793	43,914,162	1,692,151	11,629,761	14,084,425	2,849,256	7,125,941	69,515	82,467,674	ILLINOIS
INDIANA	19,144	376,315	7,776,860	292,054	780,334	1,783,135	243,809	1,596,449	62,167	12,930,267	INDIANA
IOWA	27 245	81,426	2,566,417	237,495	586,863	904,208	52,839	820 840	7,568	5,284,901	IOWA
KANSAS	14,750	421,375	985,798	12,777	7,517,013	553,006	22,402	304,369	1,483	9,832,973	KANSAS
KENTUCKY	21,303	339,764	1,788,371	91,067	2,251,818	1,715,856	234,677	865,940	38,641	7,347,437	KENTUCKY
LOUISIANA	55,895	82,102	2,607,183	96,212	565,098	1,545,931	172,341	796,717	12,782	5,934,261	LOUISIANA
MAINE	39,132	14,620	1,595.907	16,031	1,152,937	326,993	36,171	343,062	8,979	3,533,832	MAINE
MARYLAND	7,758	122,200	2,707,249	378,401	2,994,744	1,603,032	267,133	1,714,573	51,821	9,846,911	MARYLAND
MASSACHUSETTS	2,077,115	709,153	19,617,919	595,205	5,447,508	6,543,749	1,058,701	4,730,432	16,292	40,795,074	MASSACHUSETTS
MICHIGAN	227,277	468,804	46,375,575	569,139	2,102,000	5,656,691	797,773	3,537,862	134,136	59,869,257	MICHIGAN
MINNESOTA	50,685	381,324	4,975,295	324,310	3,241,306	2,432,491	181,791	1,100,651	9,182	12,698,035	MINNESOTA
MISSISSIPPI	49,364	6,146	702,999	2,913	127,290	276,314	10,453	154,507	5,667	1,335,653	MISSISSIPPI
MISSOURI	64,864	733,493	12,715,135	251,288	4,522,009	4,666,820	465,333	2,581,306	39,092	26,039,340	MISSOURI
MONTANA	17,660	20,088	80,846	2,896	339,506	202,538	111,938	64,261	1,286	841,019	MONTANA
NEBRASKA	22,099	62,457	740,908	89,704	472,676	888,127	45,913	436,696	4,286	2,762,866	NEBRASKA
NEVADA	12,590	17,503	4,877	9,216	8,982	49,902	6,121	35,231	2,736	147,158	NEVADA
NEW HAMPSHIRE	464	621	528,618	3,317	182,031	116,954	5,296	89,183	3,356	929,840	NEW HAMPSHIRE
NEW JERSEY	90,629	103,570	16,963,363	457,990	2,656,593	4,802,989	460,142	5,136,426	17,211	30,688,913	NEW JERSEY
NEW MEXIDO	35,166	26,797	44,277	63	12,527	136,356	2,547	13,152	-	270,885	NEW MEXICO
NEW YORK	140,281	6,443,977	112,553,052	2,450,327	53,433,267	28,694,131	8,741,347	33,202,460	450,466	246,109,308	NEW YORK
NORTH CAROLINA	4,501	27,932	5,550,930	50,770	2,454,751	808,215	69,778	703,907	55,529	9,726,312	NORTH CAROLINA
NORTH DAKOTA	3,520	11,605	18,162	5,797	22,574	352,812	2,455	26,256	216	443,397	NORTH DAKOTA
OHIO	59,204	1,059,312	32,261,599	698,925	5,084,374	6,210,665	859,099	4,849,650	47,146	51,129,974	OHIO
OKLAHOMA	129,977	1,248,452	864,396	119,682	636,136	688,660	68,512	203,798	9,654	3,969,257	OKLAHOMA
OREGON	181,333	14,177	1,290,456	54,212	351,144	752,573	152,004	269,972	40,639	3,106,610	OREGON
PENNSYLVANIA	99,416	5,354,642	44,481,001	2,265,169	15,154,458	7,943,486	1,058,870	10,918,020	237,190	87,512,252	PENNSYLVANIA
RHODE ISLAND	4,154	2,555	3,111,317	46,287	573,445	846,386	62,402	589,949	254	5,236,749	RHODE ISLAND
SOUTH CAROLINA	9,704	12,665	767,004	20,047	82,462	281,719	6,861	190,805	1,202	1,372,469	SOUTH CAROLINA
SOUTH DAKOTA	66	2,376	50,023	6,430	42,412	222,424	1,905	27,911	1,898	355,445	SOUTH DAKOTA
TENNESSEE	45,720	172,142	2,870,411	34,508	694,128	1,008,993	136,630	823,923	2,649	5,789,104	TENNESSEE
TEXAS	226,385	2,287,529	5,796,670	180,666	2,492,512	3,960,454	285,912	1,581,271	27,781	16,819,180	TEXAS
UTAH	32,855	647,841	315,063	64,373	300,517	376,869	64,540	296,546	207	2,098,811	UTAH
VERMONT	15,741	205,591	517,155	109	65,169	116,150	7,022	84,071	263	1,011,271	VERMONT
VIRGINIA	6,429	275,179	1,429,168	327,803	4 972,922	1,164,974	129,985	1,076,358	8,660	9,392,478	VIRGINIA
WASHINGTON	815,892	50,223	2,108,342	50,454	641,702	1,228,403	240,583	710,108	4,955	5,850,662	WASHINGTON
WEST VIRGINIA	1,462	976,148	2,073,382	45,001	663,707	952,213	46,092	849,175	28,347	5,635,527	WEST VIRGINIA
WISCONSIN	112,129	92,596	9,621,655	398,988	829,856	1,733,558	254,546	2,033,569	36,303	15,113,200	WISCONSIN
WYOMING	77,451	62,958	20,554	12,816	32,310	136,838	6,606	35,649	6,129	391,311	WYOMING
TOTALS	$ 6,732,877	$ 28,389,340	$ 429,652,793	$ 13,911,675	$ 148,278,140	$120,648,795	$ 22,130,913	$ 109,444,007	$ 2,361,006	$ 881,549,546	TOTALS

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PUBLIC ROADS

B.P.R.-MISC. A-1
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TABLE SHOWING AMOUNTS COLLECTED AS INCOME AND PROFITS FROM "MANUFACTURERS" AS SHOWN IN "STATISTICS OF INCOME".
CALENDAR YEAR 1924 - (INTERNAL REVENUE)

STATES	FOOD PRODUCTS BEVERAGES AND TOBACCO	TEXTILES AND TEXTILE PRODUCTS	LEATHER AND LEATHER PRODUCTS	RUBBER AND RUBBER GOODS	LUMBER AND WOOD PRODUCTS	PAPER PULP AND PRODUCTS	PRINTING AND PUBLISHING	CHEMICALS AND ALLIED SUBSTANCES	STONE CLAY AND GLASS PRODUCTS	METALS AND METAL PRODUCTS	ALL OTHER MANUFACTURING INDUSTRIES	TOTALS	STATES
ALABAMA	$ 106,187	$ 123,923	$ 2,414	$ -	$ 390,618	$ -	$ 69,401	$ 97,305	$ 176,038	$ *741,892	$ 23,467	$ 1,731,245	ALABAMA
ALASKA	5,850	-	-	-	*12,885	-	987	-	-	-	-	19,722	ALASKA
ARIZONA	60,805	92	-	-	4,392	917	8,560	* 92,953	159	4,058	-	171,936	ARIZONA
ARKANSAS	60,563	3,974	-	-	* 656,025	-	37,019	43,430	7,946	8,433	10,682	828,072	ARKANSAS
CALIFORNIA	3,723,114	255,159	79,508	341,081	465,572	782,026	761,549	*5,076,638	1,390,370	1,794,770	426,486	15,096,273	CALIFORNIA
COLORADO	* 2,045,874	9,839	4,785	15,934	38,065	647	244,751	861,531	403,033	54,692	20,827	3,699,978	COLORADO
CONNECTICUT	159,360	687,136	6,589	36,604	65,151	107,883	248,631	140,311	157,087	*3,927,958	1,332,754	6,869,464	CONNECTICUT
DELAWARE	74,617	204,197	22,680	-	148,523	44,802	24,544	*1,194,756	1,520	90,706	327,190	2,133,535	DELAWARE
DIST. OF COL.	89,485	8,545	-	-	8,218	23,058	*202,931	2,981	38,570	2,594	2,153	378,515	DIST. OF COL.
FLORIDA	156,048	1,802	-	484	* 661,196	-	257,543	111,242	24,012	22,094	43,923	1,278,344	FLORIDA
GEORGIA	*1,196,868	1,155,951	11,270	1,401	261,162	72,473	60,048	107,091	232,017	175,231	52,160	3,325,472	GEORGIA
HAWAII	*1,457,082	30	-	-	6,376	-	8,857	75,093	1,126	50,245	83	1,598,892	HAWAII
IDAHO	9,187	900	-	-	101,320	74	2,202	-	1,444	13,119	-	128,246	IDAHO
ILLINOIS	8,842,273	1,772,249	583,982	81,519	1,788,475	472,380	2,376,179	6,660,922	2,313,450	*16,747,471	2,275,262	43,914,162	ILLINOIS
INDIANA	868,478	436,359	19,547	36,265	794,577	201,760	270,543	479,326	801,718	* 3,468,860	399,427	7,776,860	INDIANA
IOWA	653,583	63,760	8,309	10,503	439,805	6,395	154,249	163,021	242,440	* 724,670	101,682	2,566,417	IOWA
KANSAS	* 431,351	1,307	407	-	10,861	10,672	14,926	201,055	115,112	194,335	5,772	985,798	KANSAS
KENTUCKY	* 429,446	107,738	4,102	-	428,521	409	75,856	74,439	206,788	301,780	159,292	1,788,371	KENTUCKY
LOUISIANA	296,243	56,140	2,363	628	*1,900,905	22,359	100,294	129,328	1,270	81,090	16,563	2,607,183	LOUISIANA
MAINE	100,801	*895,168	268,104	-	161,569	5,734	8,451	58,364	60,495	11,391	25,830	1,595,907	MAINE
MARYLAND	367,276	178,973	68,315	3,358	128,068	24,880	261,612	379,632	243,675	*992,575	58,885	2,707,249	MARYLAND
MASSACHUSETTS	1,319,989	4,027,660	1,016,565	879,652	421,681	2,050,653	966,766	1,515,455	156,158	*5,950,929	1,312,411	19,617,919	MASSACHUSETTS
MICHIGAN	1,601,916	202,259	45,952	23,633	1,073,984	624,296	1,130,311	1,897,156	660,720	*38,207,172	908,176	46,375,575	MICHIGAN
MINNESOTA	*2,016,800	171,007	35,792	111	525,793	201,794	346,907	659,365	201,307	457,513	359,906	4,976,295	MINNESOTA
MISSISSIPPI	63,265	791	-	-	*515,410	-	8,653	59,223	3,343	45,218	7,096	702,999	MISSISSIPPI
MISSOURI	*3,486,533	496,764	2,383,603	579	1,428,580	76,643	416,969	1,127,829	625,668	1,937,078	734,889	12,715,135	MISSOURI
MONTANA	*36,446	-	-	-	15,977	-	4,819	21,545	1,124	935	-	80,846	MONTANA
NEBRASKA	*454,867	1,369	3,634	-	15,349	87,825	84,390	8,084	14,870	53,146	17,374	740,908	NEBRASKA
NEVADA	791	-	-	-	-	-	* 2,210	-	1,205	671	-	4,877	NEVADA
NEW HAMPSHIRE	11,049	104,866	60,741	3,540	35,082	*142,147	29,393	8,945	1,798	73,320	57,737	529,618	NEW HAMPSHIRE
NEW JERSEY	2,314,246	3,587,072	280,776	259,030	311,540	272,191	531,646	887,510	614,569	*6,920,456	1,084,327	16,963,363	NEW JERSEY
NEW MEXICO	1,622	-	-	-	*39,923	-	939	1,515	28	250	-	44,277	NEW MEXICO
NEW YORK	16,392,981	8,631,677	1,284,846	1,236,875	1,177,540	2,314,755	5,525,535	24,182,285	2,348,958	*43,558,943	5,898,657	112,553,052	NEW YORK
NORTH CAROLINA	*3,700,800	1,046,185	830	-	478,947	3,499	59,911	116,342	70,392	38,581	35,443	5,550,930	NORTH CAROLINA
NORTH DAKOTA	10,077	-	2,247	-	-	-	4,488	-	443	907	-	18,162	NORTH DAKOTA
OHIO	1,587,319	1,209,926	517,793	2,528,539	835,676	1,020,068	1,950,698	2,752,616	2,343,333	*14,220,321	3,295,310	32,261,599	OHIO
OKLAHOMA	107,607	2,872	107	-	19,724	507	164,298	*469,540	22,081	65,022	12,638	864,396	OKLAHOMA
OREGON	194,073	50,884	2,716	469	* 753,919	80,977	83,589	12,042	68,518	37,846	5,423	1,290,456	OREGON
PENNSYLVANIA	4,605,027	8,453,894	639,499	161,830	1,493,236	587,987	3,201,595	2,317,461	4,089,958	*15,434,430	3,495,084	44,481,001	PENNSYLVANIA
RHODE ISLAND	26,711	*1,889,109	8,308	38,245	27,643	46,158	166,552	75,486	12,348	776,388	44,371	3,111,317	RHODE ISLAND
SOUTH CAROLINA	43,816	* 576,960	-	-	69,141	-	11,725	46,406	6,770	7,240	4,946	767,004	SOUTH CAROLINA
SOUTH DAKOTA	* 36,831	-	-	-	821	-	7,153	2,164	468	2,399	187	50,023	SOUTH DAKOTA
TENNESSEE	*913,901	403,798	48,257	-	514,492	14,400	111,804	209,917	331,914	290,274	31,654	2,870,411	TENNESSEE
TEXAS	774,105	93,442	16,996	238	499,761	14,252	160,396	*3,371,793	338,334	340,103	187,250	5,796,670	TEXAS
UTAH	*188,296	6,620	-	-	2,076	4,092	21,706	48,974	27,100	12,914	3,286	315,063	UTAH
VERMONT	44,521	106,320	1,004	-	96,398	67,769	10,962	14,627	31,540	* 125,768	18,246	517,155	VERMONT
VIRGINIA	309,116	111,466	76,511	-	* 338,646	74,918	160,743	65,082	34,965	205,939	51,882	1,429,168	VIRGINIA
WASHINGTON	568,668	29,450	7,704	-	* 801,917	115,429	154,338	27,033	184,612	189,566	29,635	2,108,342	WASHINGTON
WEST VIRGINIA	240,004	52,827	55	-	175,882	28,920	23,955	*632,924	439,127	474,785	4,903	2,073,382	WEST VIRGINIA
WISCONSIN	1,184,207	430,502	522,536	1,459	937,063	1,068,897	268,345	168,887	101,746	*4,242,160	695,853	9,621,655	WISCONSIN
WYOMING	6,304	-	-	-	*11,613	-	2,085	-	222	266	64	20,554	WYOMING
TOTALS	63,376,159	37,650,962	8,036,845	5,661,977	21,090,098	10,674,546	20,802,013	56,649,624	19,151,889	162,978,504	23,580,176	429,652,793	TOTALS

* LEADING INDUSTRY OF STATE.